

ABSTRACT OF THE DISCLOSURE

In one implementation, a plasma etching process includes forming a carbon containing material over a semiconductor substrate. The carbon containing material is plasma etched from the substrate at a temperature of at least 400°C using a hydrogen or oxygen containing plasma. In one implementation, a plasma etching process includes forming a masking layer over a substrate. The masking layer is patterned to form openings therein. Material beneath the masking layer is etched through the openings. After such etching, the masking layer is removed from the substrate. After such removing and before subsequently depositing any material over the substrate, the substrate is plasma etched at a temperature of at least 400°C. In one implementation, a semiconductor plasma etching process includes first etching material from a substrate and forming an undesired residue at least partially over the substrate during the first etching. After the first etching and before subsequently depositing any material over the substrate, the undesired residue is plasma etched from the substrate. In one implementation, a chemical vapor deposition process of depositing a material over a semiconductor substrate includes positioning a semiconductor substrate within a plasma enhanced chemical vapor deposition reactor. The substrate is plasma etched within the reactor using a first gas chemistry. After the plasma etching, a material is chemical vapor deposited over the semiconductor substrate within the

1 reactor using a second gas chemistry without removing the substrate
2 from the reactor between the etching and the depositing.
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